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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,776	05/02/2001	Erik R. Altman	YOR920010367	6685
7590	08/16/2007	David Aker 23 Southern Road Hartsdale, NY 10530	EXAMINER PAN, DANIEL H	
			ART UNIT 2183	PAPER NUMBER
			MAIL DATE 08/16/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/847,776	ALTMAN ET AL.	
	Examiner	Art Unit	
	Daniel Pan	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 07 June 2007.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-9, 11-19 and 21 is/are pending in the application.
 4a) Of the above claim(s) 10 and 20 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-9, 11-19 and 21 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 16 October 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>05/02/01, 05/21/01</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

Claims 1-9,11-19,21 are presented. Claims 10, 20 have been canceled.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-9,11-19,21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bala (6,351,844) in view of Fu et al. (6,381,678).

2. As to claims 1 ,9, 11, 12, 19, Bala taught a system included a dynamic compilation capability comprising at least :

a) translating an instruction from a first representation (non-native code) to a translated representation (native code), and setting a tag (see hit) associated with the instruction in the first representation (see col.1, lines 30-47);

b) prior to execution of a given instruction (see translation occurred before outputting the native code for execution in col.1, lines 35-38) in the first representation, examining the tag (hit) associated with the given instruction, and if such associated tag has been set (hit), branching to the translated version of the given instruction (see the reading of the translated code in the cache memory instead of using the interpreter in

col.1, lines 30-62, see also the branch , see also the suspension of the interpreter at hit in col.3, lines 18-30);

3. As to the new amended feature, Bala also taught if the bit not set (miss), interpreting the instructions for further execution (see the resume for the translation on the miss condition col.6, lines 57-67).

4. As to the feature of examining the tag without a cache fetch, Bala did not specifically teach examining his tag (the hit) without a cache fetch as claimed. However, Fu taught a system for examining a tag (see hit/miss) without a cache fetch (see the step without converting the hit request to prefetch in fig.4B [235] , see the prefetch is useless with a cache hit in col.5, lines 64-67, col.6, lines 1-12). It would have been obvious to one of ordinary skill in the art to use Fu in Bala for examining the tag without a cache fetch as claimed because the use of Fu could provide Bala the ability to accept a predefined set of request based on the given set of tags, thereby reducing the overall number of the fetching cycles, and it could be readily achieved by configuring the cache request of Fu into Bala with modified read/write parameter so that the specific tag of Fu could be recognized by Bala, and because Bala also disclosed a circular buffer could be used for analyzing the traces (see col.6, lines 14-20, also see the continuing of the interpreter operation for the given instruction upon miss in col.3, lines 20-30), which was a suggestion of the need for providing a tag without a cache fetch in order to minimize the access latency due to miss, in doing so, provided a motivation.

5. As to the recent remark by applicant that Fu simply deal with processing ordered data requests to a memory, and has nothing whatsoever to do with dynamic compiling and translation, Fu is used for showing the examination of a set signal without a cache fetch (see the step without converting the hit request to prefetch in fig.4B [235] , see the prefetch is useless with a cache hit in col.5, lines 64-67, col.6, lines 1-12). The reasons for obviousness have been discussed in previous paragraph, therefore, it will not be repeated herein.

6. As to applicant remark that if tag is not set, it indicates that there is not translation of the code, and prefetch is simply irrelevant and unnecessary, and time can be saved by not even attempting a fetch, examiner would like to point out that this is not what applicant is claiming. Applicant only claims : "said examining of said tag is effected without performing a cache fetch." The examination of the tag includes both set and not set conditions.

7. As to new claim 21, Bala also included exception handler (see interrupt handler in col.5, lines 55-67).

8. As to claims 2, 12, Bala also included the address of the translated version of instructions (see the start address in col.3, lines 1-13).

9. As to claims 3, 13, Bala also determined if subsequent instruction existed by examining the tag (see the hit signal in col.3, lines 20-30).

10. As to claims 3,14, see translated code cache in fig.1 [50].

11. As to claims 5,15, see the optimized code replacing the non-optimized code in col.1, lines 10-23.
 12. As to claims 6,16, see native code.
 13. As to claims 7,17, Bala's tag was also a single bit (see the hit signal).
 14. As to claims 8,18; Bala's tag was also multiple bits (see the profile information in col.1, lines 63-67, see also the trace entry 242 of multiple bits in col.7, lines 29-35).
 15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - a) Leblanc et al. (4,809,170) is cited for the teaching of the cache memory storing the translated code with associated tag (see fig.3 [28] [46][48], col.col.10, lines 2-15, col.8, lines 35-68, col.9, lines 1-6);
 - b) Itou et al. (6,292,939) is cited for tag associated with a translated source file (see col.9, lines 26-55). Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 571 272 4172. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.
- If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 571 272 4162. The fax phone number for the organization where this application or proceeding is assigned is 703 306 5404.
- Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 2183

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

21 Century Strategic Plan



DANIEL H. DAY
PRIMARY EXAMINER